

# The Barnacle, *Xenobalanus globicipitis* Steenstrup, in Australian Seas

By ELIZABETH C. POPE.

The Australian Museum, Sydney.

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In contributing to this number of the Marine Zoologist, which is a memorial to Mrs. Lee Woolacott, I wish to record my sincere appreciation to her both as a collector and friend. For many years, during the course of her own investigations into the habits and distributions of tropical molluscs, Lee Woolacott collected many excellent series of tropical cirripedes for me from rare and little-visited localities, thus materially helping my studies in this group.

Class CIRRIPEDIA.

Family BALANIDAE.

Genus XENOBALANUS Steenstrup, 1851.

XENOBALANUS GLOBICIPITIS Steenstrup, 1851.

(Figure 1.)

*Xenobalanus globicipitis* Steenstrup (1851), Pl. III, figs. 11-15.

*Id.* Steenstrup (1852), pp. 158, 161.

*Id.* Darwin (1854), pp. 438-446, Pl. xvii, figs. 4a-c.

*Id.* Pilsbry (1916), pp. 282-284, Pl. lxxv, figs. 1-2b. Synonymy of genus.

*Id.* Barnard (1924), pp. 96-97. Synonymy is discussed.

*Id.* Nilsson-Cantell (1930), pp. 258-259. List of host-species given.

*Xenobalanus natalensis* Stebbing (1923), pp. 12-13, Pl. xvi.

A batch of eight specimens of this peculiar and somewhat rare barnacle, *Xenobalanus globicipitis*, was taken late in January, 1956, from the tail flukes of a dolphin, stranded on Heron Island, near the southern end of the Great Barrier Reef, Queensland, by Mr. Harold Cogger, of the staff of The Australian Museum. Although Nilsson-Cantell (1930) and Cornwall (1955a) consider this species to be cosmopolitan, this is the first record of it in the Australian region.

While such a record can reasonably be expected of a species which is epizoic on widely ranging hosts like dolphins, whales, and porpoises, it is nevertheless interesting to have positive record of it in the Western Pacific. This short note and illustration are being published to draw attention to its occurrence here, in the hope that marine naturalists will find further specimens and forward them to the author for examination. Besides the chance of finding *Xenobalanus* on stranded mammals cast up on beaches, the recent establishment of land-based whaling industries should increase the likelihood of collecting more specimens. Any discoveries from northern or west Australian shores will be of particular interest.

If any specimens are found it would be appreciated if they could be speedily preserved in methylated spirits to preserve the soft parts as well as the shell.

The present series fits closely the description by Darwin (1854) in that the mouthparts are villose and the cirri armed with short, stiff bunches of bristles. Nilsson-Cantell (1921, text-figure 88) and Cornwall (1955 b, figure 40) depict mouthparts for this species which are much less bristly than in the present series of specimens. There is, however, no doubt that

the Australian specimens belong to Steenstrup's spcies. One can only conclude that there is a fair degree of variability in the structure of the mouthparts with regard to hairiness. A second species, *X. natalensis*, proposed by Stebbing (1923) has been invalidated by Barnard (1924), and in the present series the differences observed are only of the order used by Stebbing to establish his new species and disallowed by Barnard.

The main features of this unmistakable species are shown in text-figure 1A. In spite of the superficial resemblance to stalked barnacles—especially to *Conchoderma aurita* (Linn), *Xenabalanus* is in reality a highly aberrant acorn or sessile barnacle. Opercular valves are entirely missing, the body of the animal and the opercular membrane are greatly extended



Text-figure 1.—A. The whole animal about twice life size: (1) shell embedded in skin of host; (2) pseudopeduncle; (3) hood portion of pseudopeduncle; (4) horn-like outpushing of hood; (5) cirri; (6) penis.

B. Lower surface of the shell. F J. Beeman del.

and protrude through the orifice of the shell to form a dark, purply-chocolate-coloured peduncle-like structure (2, text-figure 1A). This pseudopeduncle is wider at the distal end than at the point of emergence from the orifice of the rudimentary, irregularly, star-shaped shell. The latter is six-rayed and always embedded in the outer layers of the skin of the host. The shell size is so greatly reduced that it is best seen from the lower surface after removal (together with the outer layers of skin) from the dolphin. The shape of the shell is seen in text-figure 1B (view of lower surface).

The expanded free end of the "pseudopeduncle" is rolled into a collar-like hood (3, text-figure 1A), and this bears two stumpy outpushings or "horns" (4, text-figure 1A). The swollen hood from which the cirri, mouth, etc., project (5, text-figure 1A) is reminiscent of the capitulum of regular stalked species like *Conchoderma aurita*, with its ear-like pro-

jections. The resemblance is, however, purely superficial, and *Xenobalanus* has its closest affinities with the genera *Coronula*, *Platylepas* and *Tubicinella* (Darwin 1854, p. 445).

The cirri are dark purple in colour, but the penis, which is stout and prominent, is light (6, text-figure 1A). The shell is also white and shows distinct lines of growth. Its basis is membranous. The general dark colouring is in keeping with the habit of growing attached to the skin of marine mammals from which *Xenobalanus* hangs down like a short tassel.

The present series (Australian Museum Registered number P. 12975) ranges in length from 17 to 37 mm., and the diameter of the largest shell is 6 mm. The exact species of the host is not known, but it is definitely either *Tursiops catalania* or *Delphinus delphis*, both of which have already been listed as hosts by Nilsson-Cantell (1930).

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